Dr. Kenneth L. Telschow

Research and development in the area of acoustic and ultrasonic properties of microstructures and condensed phases of the solid state, condensed matter and quantum liquids.

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Licensing information

For information on licensing INL technologies such as those developed by Dr. Telschow, contact the Lead Account Executive for Industrial Processing and Manufacturing:

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Education: Dr. Kenneth L. Telschow received his Ph.D. degree in physics from UCLA in 1973.

Work experience: Dr. Telschow has worked at the Idaho National Laboratory from1984 to the present. He is an INL consulting scientist. Previously, he worked at Southern Illinois University at Carbondale (1981-1984) as a tenured associate professor, and at Southern Illinois University at Carbondale (1976-1981) as an assistant professor. He also did postdoctoral research at the University of Massachusetts (1974-1976) and was adjunct professor in physics at the University of California, Los Angeles (1973-1974).

Professional endeavors: Dr. Telschow's background and interests are in the fields of acoustic and ultrasonic properties of microstructures and condensed phases of the solid state, condensed matter and quantum liquids. Recently, his work has concentrated on the use of nonlinear optical effects in materials for sensing. Over the past decade, he has actively contributed to the development of noncontacting laser ultrasonics for materials characterization from kHz to GHz and length scales from centimeters to microns through sensing of physical and microstructural properties. He is one of the inventors of a new imaging ultrasonic sensor called the INL Laser Ultrasonic Camera. This methodology images subnanometer acoustic and ultrasonic motions through dynamic holography using photorefractive nonlinear optics. He also contributes to efforts developing picosecond ultrasonics for characterizing phonon physics on the nanometer length scale.

Patents:

U.S. Patent No. 4,995,260 -- Nondestructive Material Characterization

U.S. Patent No. 5,048,969 -- Piezoelectric Measurement Of Laser Power

U.S. Patent No. 5,103,676 -- A Method Of Noncontacting Ultrasonic Process Monitoring

U.S. Patent No. 5,535,006 -- Method And System For Evaluation Integrity Of Adherence Of A Conductor Bond And A Mating Surface Of A Substrate

U.S. Patent No. 5,827,971 -- Photorefractive Optical Vibration Mode Spectrum Analyzer

U.S. Patent No. 6,134,006 -- Imaging Photorefractive Optical Vibration Measurement Method and Device

U.S. Patent No. 6,175,411 -- Apparatus and Method for Measuring and Imaging Traveling Waves

U.S. Patent No. 6,401,540 -- Method and Apparatus for Detecting Internal Structures of Bulk Objects using Acoustic Imaging